

*THE DEVELOPMENT OF THE TRANSPORTATION DEMAND MANAGEMENT  
PLAN  
FOR THE MARIN HEADLANDS AND FORT BAKER AREA*

CREATED BY  
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FOR  
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*IN COOPERATION WITH THE NATIONAL PARKS TRANSPORTATION SCHOLAR PROGRAM*

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## **Purpose**

This paper describes the development of a Transportation Demand Management (TDM) Plan for the workers and visitors of the Marin Headlands – Fort Baker (MH-FB) area, an historic army base and wildlife habitat area under the supervision of the National Park Service, Golden Gate National Recreation Area (GGNRA). The MH-FB TDM Plan is designed to accommodate the commute needs of the employees and volunteers affiliated with the 11+ non-profit agencies (also referred to as “Park Partners”) with offices based in MH-FB as well as GGNRA employees who work to preserve MH-FB. It also aims to address overall alternative transportation facility improvements in MH-FB, which is currently mostly inaccessible on weekdays and Saturdays except by car, experienced recreation cyclists, and experienced hikers.

## **Context**

Based on data gathered by transportation consultants during the summer of 2000 and the spring of 2001, the vast majority of visitors and workers arrive to MH-FB by private automobile from the counties of San Francisco, Marin, and Alameda. Vehicle traffic is expected to increase due to insufficient accommodations by alternative transportation (transit, bike and pedestrian connections), a surplus of parking (left over from the army), and the development of a retreat and conference center in Fort Baker. Transportation consultants coordinated workshops with the GGNRA and Park Partner agencies to identify goals that would provide maximum natural resource preservation while addressing connectivity issues. A result of their work was a recommendation to adopt a Transportation Demand Management (TDM) Plan. The following paper provides a description of the development process of the TDM Plan for MH-FB.

The entrance to MH-FB is located at the north end entrance/exit of the Golden Gate Bridge. It has a small visitor parking lot (~20 spaces) and is served by one Muni bus line on Sundays and holidays and only one Golden Gate Transit (GGT) bus line on weekdays. The GGT bus stop is 2 to 5 miles from the popular destinations for employers, volunteers and visitors. There are currently no bike parking facilities and no walkways for pedestrians, even near the bus stops. Therefore, hiking along the roadside commonly occurs, as does hitch-hiking.

To enter the Marin Headlands, travelers must pass through the half-mile Barry-Baker tunnel, a one-way historic tunnel, timed for five minute waits on either end. Bicycle lanes exist on either side of the one-way tunnel and a flashing yellow light alerts drivers to cyclists before they enter the tunnel. Pedestrians are forbidden to walk through the tunnel. An alternative route to going through the tunnel is to take Conzelman Road, which is a winding, one-way, steep and narrow route along the ridge, used primarily for scenic views. There is no official alternative for cyclists and hikers. One bicycle fatality has been reported on Conzelman Road.

A map of the Marin Headlands and Fort Baker area (MH-FB) and a list of Park Partner organizations is provided as appendix A and B in the MH-FB TDM Plan (attached at the end of this report). Aside from the beach, primary destinations include: the hostel, Headlands Center for the Arts, the Visitor center, the YMCA in Fort Barry and the 6+ nonprofit offices in Fort Chronkwhite.

### **What is TDM?**

TDM is a broad term that has only been in use since the mid-1980s even though the concept has existed since World War II when the United States government urged carpooling in order to reduce gasoline consumption by automobile use.<sup>1</sup> TDM has various associations in the U.S. and abroad; it is commonly seen in Transportation Management Plans, Trip Reduction Plans, Green Commuter Plans, and as part of Mobility Centers.<sup>2</sup> The general objective is to reduce the number of single occupant vehicles, which contribute to pollution, congestion, and environmental degradation. In the early 1990s, several legislative acts show the concerted effort of the U.S. government to improve air quality, reduce congestion through multi-modal policies and land use changes, and reduce solo driving through trip-reduction programs.

The legislative history includes: the Clean Air Act Amendments of 1990, various State laws requiring programs such as the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. In December of 1987, the South Coast Air Quality Management District, under Regulation XV, required of companies with 100+ employees to implement trip reduction programs.<sup>3</sup> Regulation XV

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<sup>1</sup> Orski, Kenneth "TDM Trends in the United States," Journal of International Association of Traffic and Safety Sciences. v 22, no. 1, 1998. page 25

<sup>2</sup> Center for Urban Transportation Research, TDM In Europe: A Synthesis Of Research Findings page10

<sup>3</sup> Orski, Kenneth "TDM Trends in the United States," Journal of International Association of Traffic and Safety Sciences. v 22, no. 1, 1998. page 26

was later repealed and the California State legislature now prevents mandatory employee participation in trip reduction programs. It is replaced by voluntary participation and employer-based TDM programs, such as the MH-FB TDM Plan described in this paper. Over the past 20 years, TDM strategies have grown to include the following list (adapted from the Victoria Transport Public Policy online TDM dictionary):<sup>4</sup>

**Air Quality Management** (especially in California where in 2000, air quality non-attainment areas consisted of 70% of the state land, affecting 90% of the state population)<sup>5</sup>

**Access Planning:** “coordination between roadway design and land use to improve transportation”

**Bicycle Planning:** network of slow traffic streets with safety facilities for cyclists such as signs, bike lanes, stencils and innovative traffic designs such as the “bike box”

**Bike To Work Day, Car-Free Days, Earth Day, Rideshare Thursdays**

**Carpools:** Formal RideSharing (through a rideshare database), Informal RideSharing (such as GO GERONIMO)

**Carsharing:** City CarShare, CarLink, SpaceShare.org

**Creative Bicycle Parking Facilities** (Attendants/Mechanics on Site, Sheltered, and As Art Pieces)

**Efficient Transit/Commute Strategies:** Smart Cards (transit fare), High Occupancy Vehicle lanes, Translink (no-stop pre-paid toll card)

**Employee-Incentives:** Commuter Checks, Parking Cash Out, Preferential Parking for carpoolers

**Employee Commute Adjustments:** Telecommute, Flextime

**Guaranteed Ride Home Programs**

**Information Access:** Transit.org., online interactive transit/bike maps, transit agency websites, 511 transit phone line

**Market-Disincentives:** Vehicle User fees, Emissions fees

**Market-Incentives:** Tax Exempt Transit Tickets Programs, Rebates, Location-Efficient Mortgages

**Park N’ Rides** (with transit connections)

**Parking Management**

**Pedestrian-Oriented Designs**

**Pedestrian Planning** (create a database of pedestrian injury locations and address street design problems)

**Road Pricing:** Congestion pricing, value pricing, road tolls and HOT lanes

**Safety Awareness Programs:** Education, Law Enforcement, and Innovative Traffic Signals/Aids (such as pedestrian walk count-downs and visibility flags)

**Self-Initiative:** Reducing car use, linking trips

**Smart Growth** (transit-oriented and mixed use development),

**Special Event Shuttles, Transit Feeder Routes**

**Transit Improvement Facilities** (provide Real Time Information, provide shelter, provide maps, plan bus stop locations for ease of connections, keep clean)

**Transportation Engineering:** Traffic Calming (speed humps, bulb-outs, textured pavement, traffic circles, bike lanes, street trees, etc), Vehicle Restrictions, and Road Space Reallocation

**Transportation Equity**

**Transportation Management Associations:** (at work site or as separate private/public institutes)

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<sup>4</sup><http://www.vtpi.org/tdm/> (updated June 2003)

<sup>5</sup> Ferguson, Erik Travel Demand Management and Public Policy (2000) page20

**Transportation Planning Theories:** Livable Communities, New Urbanism and Smart Growth (multi-modal and transit oriented development, mixed use development, pedestrian malls, and the promotion of public space)

**Vehicle Buy Back, Clean Fuel Vehicle Incentive Program**

Despite several incentives for TDM, the number of single occupancy trips is still on the rise. The success of TDM programs is difficult to measure, possibly due to the mix of TDM strategies and it's flexibility of implementation. TDM has been reportedly widely advocated (Litman, 2003) and criticized (Orski, 2001), with several skeptical yet hopeful in between. As shown by the development of a TDM Plan for MH-FB in this paper, the application of TDM strategies greatly depends on factors such as flexible work schedules and existing transportation infrastructure (parking, convenient bus stops, et cetera). Trip reduction programs are usually either based on volunteer participation and/or encouraged by the employer (i.e. employer-based).

**Why Create a TDM Plan for the Marin Headlands – Fort Baker Area (MH-FB)?**

Regulatory and management responsibilities for the 11+ visitor-oriented Park Partners in MH-FB make GGNRA unique among other National Parks, which normally do not have as many public-private ties. There are currently insufficient alternatives to driving to MH-FB for employees, volunteers and visitors. Transit is only available on Sundays and holidays. Some Park Partner and GGNRA employees have temporary housing in MH-FB, but most commute from San Francisco, Marin and Alameda Counties. TDM can help address the limited mobility options in MH-FB.

***Background***

***National***

National Parks do not normally have Transportation Planners unless there is an identified need for transportation improvements. Out of the funds provided by the Transportation Equity Act of the 21st Century (TEA-21) in 1998, the National Park Service (NPS) created the Alternative Transportation Program (ATP) to manage the distribution of funds to encourage the use of alternative transportation.

### *Regional*

The Golden Gate National Recreation Area (GGNRA) is currently conducting Environmental Impact Reports (EIRs) for two major Transportation Plans, which include alternative designs for increased transit, reduced parking, and possible changes in housing accommodations for Park employees:

- 1) Transportation Management Study for the Marin Headlands and Fort Baker, and
- 2) The Comprehensive Transportation Management Plan (CTMP)  
(which includes the entire North District of GGNRA, from the Marin Headlands to Point Reyes)

### *Current Efforts*

The planning processes for both projects have been delayed and extended by more than one year. Meanwhile, GGNRA and nine other National Parks were approved by the NPS D.C. office for additional funding and planning assistance through the National Parks Transportation Scholar Program. The Eno Transportation Foundation and the Ford Foundation provide funding for the National Parks Transportation Scholar Program.

The interest in alternative modes for GGNRA actually dates back to a 1975 Park-Wide Transportation Study, compiled by local planners and public participants at the time. The Study was never implemented but several of the original ideas have carried over into proposals for the transportation plans, such as potential Car-Free Days, restricted road space for vehicle use, expanded ferry service, and improved trails and bike paths.

### *Field Observations*

At an early stage in the development of the MH-FB TDM Plan, I collected the following list of TDM-related comments and concerns reported to me by GGNRA and other Park Partner staff members.

- lost opportunities to retain or hire employees who can not afford a car,
- fewer visitors due to accessibility being primarily limited to driving and biking (no access for low-income and disabled folks),
- carpools among employees are difficult to arrange because of different schedules and the need for a car after work or during work,
- need for better wayfinding signs and maps,
- overcrowding during special events,
- damage to the environment due to cars parked along the sides of the roads,
- poor visibility of cyclists,
- poor visibility of transit stops,
- poor knowledge of transit connections,
- need for safety amenities for pedestrians (crosswalks, signs, or lights) at the three transit stops (two Golden Gate Transit and one Muni) on Alexander Avenue and near the Baker - Barry Tunnel
- need for more bike racks in some areas (especially near the Baker – Barry Tunnel), and need for street cleaning and maintenance of bike lanes in the Baker – Barry Tunnel

### **Transportation Demand Management Coordinators (TDM Coordinators)**

In order to begin work on the MH-FB TDM Plan, I identified key individuals at each stakeholder organization (11 Park Partner Organizations and six NPS divisions) with whom I could communicate about implementation of the TDM Plan. These individuals became a core group contacts, and became known as Transportation Demand Management Coordinators (or TDM Coordinators). It is by working with the TDM Coordinators that I was able to collect survey data and create a TDM Plan that broadens the alternative transportation options for the employees and volunteers of the Marin Headlands and Fort Baker area. The MH-FB TDM Plan calls for the TDM Coordinators to meet on a quarterly basis to the coordination of special events and to act as an "Advisory Group" to GGNRA for transportation planning.

## **MH-FB TDM Plan Development**

The MH-FB TDM Plan developed from a lengthy process of defining the main elements of the plan. Over a period of several months, the structure of the MH-FB TDM Plan was eventually determined to have six main elements:

- Element 1: TDM Coordinator Position (TDM Coordinator)
- Element 2: TDM Biannual Evaluation Survey (June and November)
- Element 3: TDM Quarterly Meetings and Special Events Planning
- Element 4: TDM Coordinator Site-Specific Projects
- Element 5: Green Wheels Rideshare Program
- Element 6: GGNRA Transportation Planning

The six TDM elements set in place several key factors for successful TDM implementation:

- 1) Administration responsibilities (Element 1: TDM Coordinator Position),
- 2) A means to track the success of TDM implementation (Element 2: Survey),
- 3) The regular planning of ongoing TDM activities (Element 3: TDM Quarterly meetings),
- 4) The updating of the MH-FB TDM Plan for larger Park Partner organizations (Element 4: Site-Specific TDM Plans),
- 5) The education of opportunities and the encouragement to participate in rideshare, transit, biking and walking (Element 5: the Green Wheels Rideshare Program), and
- 6) Long-term planning for GGNRA transportation projects (provided in Element 6).

The elements are described in detail in the MH-FB TDM Plan, which is attached to the end of this report. Of particular interest is the design process of the TDM Biannual Evaluation Survey (Element 2) and the development of the Green Wheels Rideshare Program (Element 5).

## **Element 2: MH-FB TDM Biannual Evaluation Survey**

I designed the survey in Microsoft Excel so that it can be easily distributed by email to each Park Partner and GGNRA Division TDM Coordinators. The survey went through at least three drafts before a final version was sent out in late August to each Park Partner and GGNRA TDM Coordinator. The final survey is available as appendix C in the MH-FB TDM Plan.

The survey work resulted in increased communications with the TDM Coordinators through day-to-day phone, email and meetings about TDM and trip reduction actions. One future benefit that I can see of having a bi-annual requirement to collect TDM data is the increased communication it will instigate between the GGNRA Resource Management/Planning and the GGNRA Business and

Management Divisions as well as between the TDM Coordinators themselves. Quarterly Park Partner meetings, moderated by the GGNRA Business and Management Division, are already in place. At these meetings, representatives from GGNRA and Park Partners discuss matters that pertain to the park. At the October 2003 meeting, I was able to request feedback on the surveys from the TDM Coordinators and introduce the TDM strategies, such as the Green Wheels Informal Rideshare Program (discussed later) in the Green Wheels Rideshare Program.

As described in the MH-FB TDM Plan, the TDM Coordinators meet after the quarterly Park Partner meetings. The TDM Coordinators are expected to complete the survey twice a year (June and November). As stated earlier, the survey encourages communications and entails responsible actions regarding the promotion of TDM and the reduction in single-occupant vehicles. However, the survey data is not appropriate for purposes of modeling and forecasting because it is not objectively determined. In fact, in the first survey, several of the calculated mode splits for Park Partners weekday and weekend employees were affected by under-reported or over-reported (by 1 to 4) employees/volunteers.

The following survey questions provide a way to evaluate the effectiveness of the MH-FB TDM Plan:

#### Element 4: TDM Coordinator Site-Specific Projects

##### *Promotion of TDM Programs*

Do you provide the Green Wheels TDM Program TRANSPORTATION GUIDE to your staff and volunteers?

Do you provide information about alternative transportation on your WEBSITE?

Do you have adequate SIGN INFORMATION about alternative transportation at your work site?

Do you have adequate PRINTED MATERIAL for staff, volunteers and visitors about alternative transportation at your work site?

Do you provide TELEPHONE INFORMATION about alternative transportation access for visitors who call your organization?

##### *Coordinated Outreach and Planning of Special Events*

Do you have access to an online calendar of Park-related special events for the purpose of coordination and transportation cost reductions?

Do you coordinate with other Park organizations and agencies to reduce transportation-related costs?

Have you been able to save money by sharing transportation costs?

(For example: school buses, manual traffic control, and shared bike programs)

##### *Flex-time/Telecommute Benefits*

How many employees/volunteers stagger work hours, or compromise their "normal" schedule to coordinate with other schedules at least once a week?

How many employees/volunteers work from home at least once a week?

##### *Showers, Bike Racks, Lockers*

Do you have shower facilities for employees/volunteers?

Do you have lockers for employees/volunteers?

##### *Commuter Check*

Do you provide Commuter Checks to your employees?

#### Element 5: Green Wheels Rideshare Program

##### *Formal Rideshare Program [www.RIDES.org](http://www.RIDES.org)*

How many staff members and volunteers are registered in the formal rideshare program (RIDES) ?

How many carpool groups exist? (Your best estimate of the number of groups of two or more people traveling together).

##### *Informal Rideshare Program*

How many staff members and volunteers are registered in the informal rideshare program?

How many staff and volunteers use the informal rideshare program at least once a week?

### *Guaranteed Ride Home*

Have you initiated a Guaranteed Ride Home Program?

How many staff and volunteers have used the Guaranteed Ride Home Program in the past year (if you have it)?

### Element 6: GGNRA Transportation Planning

#### *Transit Amenities*

How many employees, volunteers, and visitors commute by transit? (Your best estimate.)

#### *Bike and Pedestrian Amenities*

Do you have sufficient accommodation for bike parking (indoors, outdoors)?

How many employees, volunteers, and visitors commute by bike or walk? (Your best estimate.)

#### *On-Site Parking Management*

Do you have preferential parking for rideshare participants or carpoolers?

Do you have reserved parking for employees and volunteers? Do you have paid parking for visitors?

Do you practice preservation measures for "at risk" resource areas along the roadside?

### The survey collects the following baseline statistics:

- Number of Weekday and Weekend Staff (full time and part-time)
- Number of Weekday and Weekend Volunteers
- Number of Weekday and Weekend Trips Generated by Mode (Drive alone, Carpool, Bike/Walk, and Transit)

### Survey data analysis involves the following calculations:

- Number of Weekday and Weekend Personal Trips Generated by Staff/Volunteers  
 $[5 * (\text{weekday quantity}); 5(\text{weekend quantity})]$
- Sum Total Number of Average Weekly Trips  
 $\text{Sum} = [5 * (\text{weekday quantity}) + 5(\text{weekend quantity})]$
- Current Percentages of Mode Splits  
 $[\text{Number Mode Reported} / \text{Baseline Totals}]$
- Desired TDM Target Mode Splits (at 75% Drive Alone, 25% Alternative)  
 $\text{Drive Alone} = [(.75)\text{Weekday/Weekend Baseline totals}]$   
 $\text{Alternative Transportation} = [(.25)\text{Weekday/Weekend Baseline totals}]$
- Desired TDM Target Mode Splits (at 67% Drive Alone, 33% Alternative)  
 $\text{Drive Alone} = [(.67)\text{Weekday/Weekend Baseline totals}]$   
 $\text{Alternative Transportation} = [(.33)\text{Weekday/Weekend Baseline totals}]$

The survey data can be used to indicate how well TDM implementation is working in MH-FB. Due to the non-mandatory aspects of TDM Programs, implementation is dependent on voluntary participation. Therefore, the success of the MH-FB TDM Plan reflects the degree of voluntary participation in TDM programs that target employee and volunteer commuter needs for GGNRA and Park Partner organizations.

The core component of TDM implementation in MH-FB exists as Element 5 of the MH-FB TDM Plan, also known as the Green Wheels Rideshare Program. To assist employees and volunteers in understanding their TDM commute options, I created a website ([www.nps.gov/goga/planning/greenwheels/](http://www.nps.gov/goga/planning/greenwheels/)) and a "Green Wheels Transportation Guide for the Marin Headlands and Fort Baker Area," which is provided as Appendix D in the MH-FB TDM Plan.

#### **Element 5: The Green Wheels Rideshare Program**

The Green Wheels Rideshare Program (Element 5) is comprised of two rideshare programs (formal and informal) and a Guaranteed Ride Home Program. Information about the program is available to the public on the Golden Gate National Recreation Area website ([www.nps.gov/goga/planning/greenwheels/](http://www.nps.gov/goga/planning/greenwheels/)). More information about TDM programs is provided in Appendix D of the MH-FB TDM Plan, which is a specially created Green Wheels Transportation Guide pamphlet for MH-FB employees and volunteers.

If successful, the Green Wheels Rideshare Program may serve as a model for areas similar to MH-FB; the program is applicable to remote or rural areas experiencing high volumes of single-occupant vehicle traffic with limited access and transportation options on a daily basis.

As stated earlier, participation in the Green Wheels Rideshare Program is non-mandatory, but the program is expected to "catch on" because of the support among employees and volunteers who value environment-friendly transportation alternatives. The website ([www.nps.gov/goga/planning/greenwheels/](http://www.nps.gov/goga/planning/greenwheels/)) and "Green Wheels Transportation Guide" is expected to provide GGNRA and Park Partner TDM Coordinators with enough information so that they can encourage participation in the program.

The rideshare programs (i.e. informal and formal) in conjunction with the Guaranteed Ride Home Program (described later) work well in combination with other alternative modes of transportation (i.e. taking transit, biking and walking). In fact, it is expected that use of the Green Wheels Rideshare Program will result in increased attention to transit, bike and pedestrian facilities in MH-FB, which will in turn result in increased use of alternative modes of transportation.

Overall, the Green Wheels Rideshare Program promises to:

- 1) Reduce impacts to natural and historic park resources, including impacts from traffic parking,
- 2) Increase and improve alternative commute options, and
- 3) Strengthen community through individual and group partnership efforts and ridesharing.

The specific development of the formal, informal and Guaranteed Ride Home Program, which are the combined aspects of the Green Wheels Rideshare Program are described in the following sections.

#### *Green Wheels FORMAL Rideshare Program*

The Green Wheels Formal Rideshare Program is made possible through RIDES for Bay Area Commuters ([www.rides.org](http://www.rides.org)), which houses an online database of people who want to find carpool participants. Most large metropolitan areas have a regional rideshare database agency, such as RIDES, that allows commuters to locate compatible carpool members.

The Formal Rideshare Program works simply: participants register online (at [www.rides.org](http://www.rides.org)) and then meet fellow registered participants to form a “ride match.”

At the request of the MH-FB participants, I was able to set up a database through RIDES that is specific to the pool of MH-FB commuters so that “ride matches” are limited to MH-FB employees and volunteers only. With the RIDES database program established, participants are able to locate people who live within two miles of their home who also commute to MH-FB. And participants can specify what time they prefer to leave home in the morning and leave work in the afternoon with an overlay time of up to an hour. The “Green Wheels Transportation Guide” (attached as appendix D in the MH-FB TDM Plan) explains how to enroll in the Formal Rideshare Program.

Although formal ridesharing works for people with predictable schedules, it does not meet the needs of employees and visitors who work variable hours and/or on weekends. A large percentage of employees and volunteers at GGNRA and Park Partner organizations work off hours and weekends. For example, GGNRA rangers often work on weekends and employees who care for the sea animals at the Marine Mammal Center are usually required to be at work extremely early in the morning. Therefore, these commuters with unpredictable schedules may opt to participate in the informal rideshare program, described next.

### *Green Wheels INFORMAL Rideshare Program*

#### **Background**

I first learned about the concept of informal ridesharing at a meeting with the Marin County RIDES for Bay Commuters representative, Matthew Woods. He alerted me to the original informal rideshare program in the San Geronimo Valley called *GO GERONIMO*, which was co-founded by the current Marin County Bicycle Coalition director, Debbie Hubsmith.<sup>6</sup> I followed up on the program with Debbie and learned that it is similar to casual carpooling (which occurs at designated locations in the East Bay for commuters bound for San Francisco), except that it requires a registry of participants (drivers and riders) who regularly use the main road in Marin County, Sir Francis Drake Blvd. Registration in GO GERONIMO involved background checks for outstanding crimes and offenses and the creation of a neon green, over-sized Photo ID card for identification recognition on the Sir Francis Drake Blvd. The program was originally endorsed by the Marin County Sheriff Department, but they later withdrew their involvement due to liability issues. Another factor that contributed to the end of the GO GERONIMO program was the tendency of registrants to drive, rather than hail a ride on the Sir Francis Drake Blvd. Other than GO GERONIMO, there are no other examples of informal ridesharing programs that I know of. But the GO GERONIMO legacy leaves behind a comprehensive website ([www.gogeronimo.org](http://www.gogeronimo.org)) and video documentation of news reports. I brought the videos to the Park Partner On-Site Meetings in October and introduced the Park Partner employees and volunteers to the idea of starting a Green Wheels Informal Ridesharing Program in the Marin Headlands – Fort Baker Area along Bunker Road. The idea was received with curiosity and some skepticism, but mostly enthusiasm.

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<sup>6</sup> For a complete description of the development of GO GERONIMO visit [www.gogeronimo.org](http://www.gogeronimo.org).

## Planning

The original intent of the Green Wheels Informal Rideshare Program was to have a registration process similar to GO GERONIMO, which would include background checks and neon Photo IDs. However, background checks proved to be unnecessary since the majority of participants would likely know each other due to the close proximity of offices in MH-FB. Instead, it was determined that the TDM Coordinators would confirm the good standing of an employee or volunteer as part of the registration and photo ID renewal process.

Some participants expressed concerns about finding rides in the evening from work in MH-FB to a location (i.e. a bus stop or locked bike) from which they could get themselves home. In anticipation of their worries, I created a Yahoo! Rideshare Email Group [[www.groups.yahoo.com/group/greenwheels.org](http://www.groups.yahoo.com/group/greenwheels.org)] that will allow participants to communicate with each other by email to find a ride at short notice. Communication by email, however, is not reliable for many of the employees and volunteers who work out in the field or spend most of their time working with school kids. Therefore, as specified in the TDM Plan, one of the TDM Coordinator responsibilities is to be the "go between" and relay rideshare emails to other staff members. "Ride Boards" are also among the proposed methods of locating ride matches at short notice.

The Yahoo Email Group also provides an online Yahoo Group Calendar, which can be used to help Park Partners plan to share costs for school bus rentals. The cost for a bus rental can be overwhelming and are arranged for school field trip days. By coordinating rides and school field trip events on the same day, participants can reduce the cost of bus rentals by getting more "bang for the buck."

## Implementation

I arranged for a registration kick-off event on Thursday, November 20<sup>th</sup>, from 3 p.m. to 6 p.m. during which we showed the GO GERONIMO videotape and provided information on transit/bike connections from general Marin County and San Francisco County areas. To make information about transit accessible for those who want it, I also delivered a box of current Golden Gate Transit schedules to the Headlands Visitor Center.

About 30 people attended the kick-off event, and 23 people registered in the program and had their picture taken. As of May 2004, there are 58 registered participants. In June, all five pick-up and drop-off locations were set up using temporary barricades and laminated signs (see picture).

There are five pick-up/drop-off points located along Bunker Road at: 1) Fort Baker, 2) the East Portal of the Barry-Baker Tunnel, 3) the entrance to Capehart Housing, 4) the Visitor Center, and 5) Fort Cronkhite. Two of the five stops have existing bus shelters (at East Portal Tunnel Entrance and Capehart Housing). Planning is still underway for pedestrian safety amenities at the five pick-up/drop-off locations.

The Green Wheels Informal Rideshare Program is an amazingly low cost program with a potentially big impact in GGNRA and other areas that lack public transit service on a main road. The equipment for the entire program will require no more than \$500 in the first year of installation. As of June, the only expenses have been the cost of obtaining five barricades and obtaining the material with which to mount signs, which were designed by GGNRA Transportation Planner, Paul Bignardi. The use of existing bus shelters helps to keep costs down. The yearly costs to replace the barricades and cones (used to identify the five pick-up/drop off locations) will most likely not amount to more than \$100 per year. Ten safety flags for pedestrians waiting at the informal rideshare stops were donated to GGNRA from the City of Berkeley.

The impetus to improve transit, bike and pedestrian facilities is clearly reinforced by the Green Wheels Informal Rideshare Program. And the Bi-annual TDM Evaluation Survey will be used to measure the success of the Green Wheels Informal Rideshare Program, which will be determined from the number of participants who take transit, bike or walk instead of driving alone to their offices in MH-FB.

### **Additional MH-FB TDM Plan Considerations**

As a final note, in the MH-FB TDM Plan I recommend improved facilities for pedestrians, transit users, and cyclists.

Pedestrian facility improvements are necessary for people at bus stops located on Alexander and Bunker Road. The current Golden Gate Transit #10 route stops are located about a five-minute walk from the Informal Rideshare pick-up spot at the East Portal Tunnel entrance. GGNRA Transportation Planner, Paul Bignardi, and I met with GGT representatives at the location of proposed changes. There are two northbound and one southbound paired bus stops for Golden Gate Transit line #10. They are all located at least a 3-minute walk apart by foot on Alexander Avenue. Only two of the stops have shelters. The Muni stop is located in a stenciled island area on the road, with no cross walk or protection from traffic. Poor connectivity for pedestrians and bicyclists from the bus stops to the Green Wheels Informal Rideshare pick-up/ drop-off locations is an important consideration. The following proposals aim to address these gaps in transit service:

- Extend Muni service to include Saturday (in addition to the current Sunday and holidays service)
- Reroute GGT bus line #10 to go through Fort Baker and stop at the Informal Rideshare stop where a bus shelter exists near the East Portal entrance of the Barry-Baker Tunnel (estimated cost = one additional bus) OR
- Reroute GGT bus line #10 stop to the Informal Rideshare stop where a bus shelter exists near the East Portal entrance of the Barry-Baker Tunnel (estimated cost = 2 min each way)
- Conduct a needs assessment for Pedestrian and Bicycle Facilities at bus stops and Informal Rideshare meeting locations.
- Use the sheltered waiting area near the Golden Gate Transit and Muni bus stop closest to the Barry-Baker tunnel for Green Wheels Informal Rideshare participants to stand
- Apply traffic calming at Alexander and Bunker intersection (such as blinking yellow lights, yellow diamond signs, and/or vertical pedestrian safety panel for the center of the road)
- Create an outdoor map of MH-FB with trails and destinations, conveniently located at the bus shelter

I recommend the following changes to increase safety for cyclists;

- Bike rack installations at the entrance of the Barry-Baker tunnel
- Maintenance of bike lanes in the Barry-Baker tunnel to prevent potholes and mud/sand collection
- Signs to indicate bicycle routes and "Share the Road" signs to reduce speeding
- An outdoor map of MH-FB with bike routes and elevation markers
- Bike Maps and safety night-visibility accessories on sale at the Visitor Center

## **Conclusion**

The development of the MH-FB TDM Plan was a lengthy process that involved: 1) defining the roles and responsibilities of the TDM Coordinators, 2) designing the TDM Biannual TDM Evaluation survey, 3) establishing the basis for TDM Coordinator quarterly meetings and special events planning, 4) identifying TDM Coordinators Site-Specific projects, 5) developing the Green Wheels Rideshare Program, and 6) highlighting TDM aspects of GGNRA transportation planning. These are the six main elements of the MH-FB TDM Plan. The most current draft, which is close to being finalized, is attached to this report.

It is hoped that the MH-FB TDM plan will not only reduce negative impacts to natural and historic resources at GGNRA through improved accessibility by alternative modes in the Marin Headlands and Fort Baker area, but also:

1. Expand employment outreach (through expanded alternative commute options)
2. Create potential for reduced emissions and savings by reduced automobile use
3. Allow shared savings on Park Partner expenses for transportation management for large public events or programs, and
4. Strengthen community through coordinated efforts and ridesharing

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### **Written Work**

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Appendix: The MH-FB TDM Plan (working final draft May 2004)